

DOCUMENT RESUME

ED 311 404

CS 009 794

AUTHOR Thornton, Nancy E.; And Others
TITLE Transfer of Word Meanings.
PUB DATE Apr 89
NOTE 3p.; Paper presented at the Annual Meeting of the American Educational Research Association (San Francisco, CA, March 27-31, 1989).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Analysis of Variance; Educational Research; Higher Education; Learning Strategies; *Semantics; *Transfer of Training; Undergraduate Students; *Vocabulary Development
IDENTIFIERS *Encoding Specificity

ABSTRACT

Two studies investigated the degree to which the content of initial learning of a word facilitated transfer of the word meaning to other representations that were near or far, relative to the originally learned form of the word. Subjects in the first study were 40 undergraduate students, who were tested on a list of 13 uncommon words. Results indicated clearly that the form of meaning that people are first exposed to remains the primary semantic marker for a given word. Subjects in the second study were an additional 40 undergraduate students. The data from the second experiment support the notion that semantic processing increases the amount of information remembered, and imply that the transfer of semantic nuance is not a function of the initial form of the meaning presented. (SR)

* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *

TRANSFER OF WORD MEANINGS

by Nancy E. Thornton, Kristen S. Winston, Cecelia Lopez,
William A. Stock, & Raymond W. Kulhavy

Arizona State University

PERMISSION TO REPRODUCE THIS
MATERIAL HAS BEEN GRANTED BY

Nancy E. Thornton

TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)."

Introduction

People learn the conceptual meanings of words in different ways, including memorizing definitions and learning from context while reading (Anderson & Kulhavy, 1972; Nagy, Anderson, & Herman, 1987). In the studies that follow, we were interested in the degree to which the content of initial learning facilitated transfer of the word meaning to other representations that were near or far relative to the originally learned form of the word. Two competing hypotheses make different predictions about the degree of transfer that we might expect, especially since uncommon words were used as stimuli. The spread-of-transfer hypothesis (Gick & Holyoak, 1987) predicts that self-transfer will be highest for simple definitions, whereas both near, and to a lesser degree, far transfer should result when the meaning is presented as a close associate (synonym) or as a specific example of the target word. On the other hand, the encoding specificity hypothesis (Abrial, Clark, & Telman, 1986; Tulving & Thompson, 1973) makes an opposing prediction that the representation that defines the meaning will furnish the best retrieval cue, regardless of its content.

Experiment I

Method In an initial norming study, we developed a list of 13 uncommon words, rarely known by our college population, for which we generated and normed three test items for each word based on the definition, a synonym, and an example sentence illustrating the meaning. In the first experiment we varied type of instruction between subjects and treated type of test item as a within-subjects variable. The base design was a 2 form of instruction (definition vs. example) by 3 type of item (definition vs. synonym vs. example) factorial with repeated measures on the form of instruction variable. Subjects were 40 undergraduate volunteers who were randomly assigned, 20 to each between-subjects condition. Subjects initially responded to a multiple-choice item on the meaning of the target word and then saw either the definition or a sentence illustrating the meaning. When all 13 words had been presented in this manner, subjects were given unlimited time to complete the 39-item posttest. The order of materials was independently randomized for each subject.

Results and Discussion Posttests were scored by awarding one point for each correct response. A 2 form of instruction by 3 type of item ANOVA on the posttest data yielded significance for both the form of instruction main effect

This paper was presented at the annual meeting of the American Educational Research Association in San Francisco, April 1989. Travel costs for the first author were funded by the College of Education Deans' Office of Arizona State University. Copies of this paper can be requested in writing from Nancy E. Thornton, 8552C E. Indian School Road, Scottsdale, AZ 85251.

($F_{2,80} = 18.56, p < .01$) and the item type by form of instruction interaction ($F_{2,80} = 58.62, p < .01$). Post hoc and simple effects analyses showed that definition and example items were superior to synonym items, and that both instruction groups performed best on items corresponding to those seen during learning. These results provide clear support for the encoding specificity hypothesis as an explanation for how word meanings are acquired. The form of meaning that people are first exposed to remains the primary semantic marker for a given word.

One problem with this conclusion is that learners in this study were allowed to process their version of the work meaning in an idiosyncratic manner, a fact that could have led to a "shallower," less semantic processing based on, for example, word recognition patterns. In order to provide a better test of the transfer hypothesis, we designed a second study in which half of the subjects were forced to process word definitions semantically.

Experiment II

Method In the second experiment, we held the form of instruction on word meanings constant, presenting the definition of the target words to all subjects, and varied the type of processing between subjects. The resulting design was a 2 type of processing (copy definition vs. create sentence) factorial with repeated measures on the form variable. Subjects were an additional 40 undergraduate volunteers who were randomly assigned, 20 to each between-subjects cell. The materials and procedures were essentially the same as in the first study, except that half of the subjects copied the definition of the target words verbatim, and half created a sensible sentence illustrating the meaning of the word.

Results and Discussion There was no difference between groups on the number of definition errors initially produced, and, as expected, the sentence group required more time to complete their processing task. Analysis of posttest corrects yielded significant main effects for both type of processing ($F_{1,38} = 6.00, p < .05$) and type of item ($F_{2,76} = 90.28, p < .01$), by not for their interaction. As predicted, the sentence group out-performed the copy group in terms of correct test performance, and a Tukey post hoc analysis showed the following ranking of item type means: definition > synonym = example.

The data from this second experiment support the notion that semantic processing increases the amount of information remembered. However, the lack of a significant processing by item type interaction provides no evidence for the transfer hypotheses. In fact, the ranking of the item type means suggests that encoding specificity is the major contributor to what meaning a person is likely to identify with a word, even under conditions of forced semantic processing. Such results have important implications for the teaching of new vocabulary because they indicate that the transfer of semantic nuance is not a function of the initial form of the meaning presented.